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EXAMINER

DAY, M

ART UNIT

PAPER NUMBER

15

B2M1/0315

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277 PARK AVENUE
NEW YORK NY 10172

2211

DATE MAILED:

03/15/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 13 Dec. '96 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-45 are pending in the application.
Of the above, claims 13-45 are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-12 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☒ The proposed drawing correction, filed 16 Feb '95, has been ☒ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☒ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other _____

EXAMINER'S ACTION

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Part III DETAILED ACTION

Response to Amendment

1. Preliminary amendment C (paper 14), filed on 13 December 1995, has been considered.
2. Applicant's arguments filed on 13 November 1995 have been fully considered but they are not deemed to be persuasive.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

4. Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Toda et al. in view of Kley. Toda et al. disclose a camera (electronic endoscope) including: a physical

element (see FIG. 43, liquid crystal iris 412) for controlling a physical characteristic of said physical element to affect at least one of a light transmission factor and a *light transmission amount* (see col. 28, lines 52-60, iris diameter); a photoelectric conversion means (CCD 411) for receiving an optical image transmitted through said physical element at a position of an image plane, and for converting the optical image into an electrical image; and a correction means (white balance correction circuit 427) for correcting the light transmission factor wavelength dependency of said physical element in accordance with at least one of *the light transmission factor characteristics* and the light transmission amount characteristics of said physical element (see col. 29, lines 35-42). Toda et al. do not disclose an endoscope wherein the correction means for correcting the light transmission factor wavelength dependency is changed by control of the physical characteristic of the physical element. Toda et al. disclose an endoscope including a white balance correction circuit 427 for correcting the light transmission factor wavelength dependency of said physical element in accordance with the light transmission factor characteristics of said physical element (see col. 29, lines 35-42). Kley discloses a physical element (see FIG. 68, color control unit 1164) for use in a video camera (see col. 36, lines 14-17) that controls the color of the light transmitted through the physical element. The use of a color filter, such as

the color control unit 1164, as disclosed by Kley, is functionally equivalent to the white balance correction circuit 427, as disclosed by Toda et al., for the purpose of color correction of the light transmission factor wavelength dependency of the physical element. The color control unit 1164 provides the further advantage of improving object identification (see col. 32, lines 11-24). It would have been obvious to combine the color control unit 1164, as disclosed by Kley, with the liquid crystal iris 47 instead of using the white balance correction circuit 427, as disclosed by Toda et al., to improve object identification.

Referring to claim 2, Toda et al. disclose a camera wherein the correction means adjusts a correction amount in accordance with at least one of the light transmission factor and the light transmission amount of said physical element (see col. 29, lines 22-25).

Referring to claim 3, Toda et al. disclose a camera wherein the correction by the correction means is achieved by auto white-balance control (see col. 29, lines 22-25, white-balance correction circuit 427) of an output signal from said photoelectric conversion means.

Referring to claim 4, Toda et al. disclose a camera including all of the limitations of claim 1, as described above. It is unclear as to whether Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by

changing the sensitivity of said photoelectric conversion means in accordance with a light wavelength. Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by changing the gain of the photoelectric conversion means in accordance with a light wavelength (see col. 29, lines 35-36). Consequently, it is the position of the Examiner that the method of correction is functionally equivalent to the Applicants claimed method. As the Applicant has not shown this specific claim limitation to solve a problem, and present no novel, or unexpected result over the prior art, correction by the correction means by changing the sensitivity of said photoelectric conversion would be a matter of obvious design choice within the purview of one of ordinary skill in the art (see, In re Kuhle, 188 USPQ 7 (CCPA 1975)). Further, on page 31, line 20, the Applicant admits that this is not a critical design feature of the present invention.

Referring to claim 5, Toda et al. in view of Kley. disclose all of the limitations of claim 1, as previously described. It is unclear as to whether Toda et al. disclose the use of a filter as a means for correcting light transmission dependency of the physical element. Kley discloses the use of a filter (see FIG. 68, color unit 1164) for the control of light transmission. The same reason for combining art as in claim 1 applies here.

Claim 6 is rejected for the same reason as claim 1.

Referring to claim 7, Toda et al. disclose a camera wherein the correction means includes a storage means (see FIG. 45, color correcting control circuit 432 includes color correcting memory 440) for storing the light transmission factor wavelength dependency of said physical element (see col. 31, lines 3-6).

Referring to claim 8, Toda et al. disclose a camera wherein the storage means stores a plurality of correction amounts (see col. 31, lines 9-12).

5. Claims 9-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Tani et al. Referring to claim 9, Tani et al. disclose a camera including: a physical element for controlling a physical characteristic of said physical element to affect the light transmission factor (see FIG. 1, diaphragm 12); a photographic conversion means (imaging device 10) for receiving an optical image transmitted through said physical element at a position of an image plane, for converting the optical image into an electrical image signal, and capable of adjusting light accumulation time (see abstract, lines 13 and 14); and an exposure amount adjusting means (microcomputer 20) for controlling an exposure amount (see col. 4, lines 24-41, exposure amount K) by a combination of adjusting the light transmission amount (aperture value F), and the light accumulation time (shutter speed T). Consequently, it is the position of the Examiner that it would have been obvious to one of ordinary skill

in the art that the camera, as disclosed by Tani et al., is at least a fully functional equivalent to the Applicant's claimed camera as evidenced by Tani et al. suggestion all of the Applicant's claimed structural and functional limitations.

Referring to claim 10, Tani et al. discloses a camera wherein the exposure amount adjusting means electrically adjusts the light transmission amount. Here it is noted that microcomputers, such as microcomputer 20, are known to be electrical.

Referring to claim 11, Tani et al. disclose a camera wherein the exposure amount adjusting means adjusts the light transmission amount in accordance with the incident light (see abstract, lines 5-14).

Referring to claim 12, Tani et al. disclose a camera wherein the exposure amount adjusting means comprises storage means for storing at least one relationship between at least one of the light transmission amount and the accumulation time of the photoelectric conversion means (see col. 5, lines 27-55, here it is noted that the charge accumulation time depends on the shutter speed (see abstract, lines 13 and 14)).

6. Referring to page 5 of the preliminary amendment C, filed 13 December 1995, the Applicant's argument is moot in view of new grounds of rejection.

7. Referring to page 5 of the preliminary amendment C, filed 13 December 1995, the Applicant alleges that Tani et al. fail to disclose an exposure amount adjusting means for controlling an exposure amount by a combination of adjusting the light transmission factor and the light transmission amount, and control of the light accumulation time and the sensitivity of the image pickup means. The Examiner respectfully asserts that this allegation is not a fair reading of the subject claim 9. The subject claim includes: an exposure amount adjusting means for controlling an exposure amount by a combination of adjusting at least one of the light transmission factor and the light transmission amount, and at least one of the light accumulation time and the sensitivity of the image pickup means. The subject claim limitation is interpreted by the Examiner as meaning an exposure amount adjusting means for controlling an exposure amount by a combination of adjusting the light transmission factor or the light transmission amount, and the light accumulation time or the sensitivity of the image pickup means. It is the position of the Examiner that the subject limitation is met by Tani by an exposure amount adjusting means (microcomputer 20) for controlling an exposure amount (see col. 4, lines 24-41, exposure amount K) by a combination of adjusting the light transmission amount (aperture value F), and the light accumulation time (shutter speed T).

Still referring to page 5 of the preliminary amendment C, filed 13 December 1995, the Applicant further alleges that Tani et al. fail to disclose or suggest an iris using a physical (material) element. Here the Examiner assumes that the Applicant is suggesting that Tani fails to disclose a liquid crystal shutter. It is the position that although liquid crystal shutters are found as examples or embodiments in the specification, they were not claimed explicitly. Consequently, the diaphragm 12 of Tani is functionally equivalent to the claimed physical element. The Applicant is respectfully reminded that both Kley and Toda et al. disclose the use of a liquid crystal iris and may be relied upon in the event of an amendment directed to such.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Day whose telephone number is 703/305-4941. The examiner can normally be reached on Monday-Friday, from 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached by phoning 703/305-4704. The Fax phone number is 703/308-7382.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703/305-4900.

13 March 1996

MICHAEL DAY
PATENT EXAMINER
GROUP 2200

MICHAEL HORABIK
PATENT EXAMINER
GROUP 2200

